Funding Application

Competition: Regional FTA
Application Type: Main Competition
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Project Information

1. Project Title
   RapidRide K Line: Speed and Reliability Improvements

2. Regional Transportation Plan ID
   1027

3. Sponsoring Agency
   King County Metro

4. Cosponsors
   N/A

5. Does the sponsoring agency have "Certification Acceptance" status from WSDOT?
   N/A

6. If not, which agency will serve as your CA sponsor?
   N/A

7. Is your agency a designated recipient for FTA funds?
   Yes

8. Designated recipient concurrence
   N/A

Contact Information

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Project Description

1. Project Scope
   This project scope will construct and implement transit speed and reliability improvements for the RapidRide K Line which is scheduled to begin service in 2025. RapidRide K Line will operate between the Kirkland Totem Lake Regional Growth Center and the Eastgate Park and Ride in Bellevue. This new RapidRide Line will replace portions of Metro Route 239, 250, 255, and 271.

   The K Line will provide service to Downtown Kirkland (a proposed Regional Growth Center), Bellevue Regional Growth Center and local centers along the corridor such as Bellevue College.
Proposed improvements include construction of bus lanes, queue jumps, turning restrictions, bus bulbs, signal timing optimization, bus stop spacing management, transit signal priority, turn lanes, traffic channelization improvements, and layover improvements to enhance bus operations. These improvements will provide faster travel times, improve on-time reliability, and safer more convenient access to destinations and transit centers served across the entire 15.24 mile RapidRide I Line corridor. Please see Attachment 4 for list of potential improvements.

Project outcomes include:

- Travel time savings between 15-30% per trip compared to previous local bus service, or 13 to 25 minutes saved per trip per trip on the corridor.

- Increased transit ridership of 4,200 new average weekday riders.

- Increased transit access and mobility to worksite and other destinations for 59,000 people and 112,700 employees located within ½ mile of the corridor.

- Improved traveler access to other destinations within multiple local and regional centers from connections at nine transit centers/park and ride lots providing transfers to Sound Transit’s (ST) East Link light rail, ST’s STRIDE I-405 Bus Rapid Transit (BRT), Metro’s RapidRide B Line and other regional and local bus routes.

2. Project Justification, Need, or Purpose

The need for the project is related to the following conditions and desired outcomes:

1. Meet increased demand for high frequency BRT service.

The RapidRide K Line corridor is one of Metro’s most productive suburban transit corridors serving an average 6,700 weekday trips. Routes 255 & 271, which will be consolidated into the RapidRide K Line, are high ridership routes that have bus crowding issues. Ridership on the corridor is forecasted to increase 63% to 10,900 average weekday trips when RapidRide service starts in 2025.

2. Meet forecasted demand to connect to new High Capacity Transit (HCT) services.

This proposed project will help ensure that the RapidRide K Line will meet that need for riders to connect to new Sound Transit East Link and STRIDE BRT services.

3. Serve areas experiencing high population and employment growth.

Kirkland and Bellevue are expected to grow tremendously over the next two decades, in both population and employment. This growth will increase transportation demand within and between the cities and their regional and local centers, including major destinations such as Bellevue College, Downtown Bellevue, and Kirkland’s Totem Lake subarea.

4. Improve transit service reliability, frequency and speed.

Providing frequent, fast, and reliable BRT service to regional destinations served by the corridor will better serve existing riders and attract new riders.

5. Reduce congestion and greenhouse gas emissions.

Congestion in the project corridor and the parallel I-405 corridor has a significant impact on transit speed and reliability. These corridors experience severe traffic congestion impacting transit operations during peak periods. This project will improve transit travel speed by reducing or eliminating congestion points, attracting new riders and helping take automobiles off congested roads and highways. Reducing vehicle miles traveled (VMT) by single-occupant vehicles reduces greenhouse gas emissions.

Project Location

1. Project Location

RapidRide K Line, serving Kirkland and Bellevue

2. Please identify the county(ies) in which the project is located. (Select all that apply.)

King

3. Crossroad/landmark nearest the beginning of the project

Totem Lake Transit Center

4. Crossroad/landmark nearest the end of the project

Eastgate Park and Ride

5. Map and project graphics

Attachment_1.pdf
Plan Consistency

1. **Is the project specifically identified in a local comprehensive plan?**
   
   Yes

2. **If yes, please indicate the (1) plan name, (2) relevant section(s), and (3) page number where it can be found.**
   
   This project is supported by the King County Comprehensive Plan. It is included in the King County Metro adopted Six-Year Budget which is included in the comprehensive plan by reference. The project is also consistent with the King County Metro Strategic Plan for Public Transportation which is adopted by the King County Council.

   It is also included in King County Metro’s long range vision for transportation: METRO CONNECTS. The project is also consistent with both the findings and recommendations in the Bellevue Comprehensive Plan and the Kirkland Comprehensive Plan.

   King County Comprehensive Plan (2018) Policies:
   * T-101 The Strategic Plan for Public Transportation 2011-2021 and King County Metro Service Guidelines, or successor plans, shall guide the planning, development and implementation of the public transportation system and services operated by the King County Metro Transit Division. (p. 7-6)
   * T-103 In striving to meet the growing need for transportation services, King County shall seek to maximize the efficiency and effectiveness of its services, infrastructure and facilities. (p 7-8)
   * T-204 King County should support local and regional growth plans and policies by focusing transit services on centers and other areas of concentrated activity (p. 7-13)

   Metro Strategic Plan (2015) Strategies:
   * 5.1.3: Improve transit speed and reliability; (p. 28)
   * 6.2.1: Continually explore and implement cost efficiencies, including operational and administrative efficiencies; (p. 32) and
   * 6.2.2: Provide and maintain capital assets to support efficient and effective service delivery (p. 32).

   METRO CONNECTS (2018) Recommendations:
   * RapidRide K Line designated as part of the 2025 future RapidRide network (p. 24)

   City of Bellevue Comprehensive Plan (2019)
   * RapidRide K Line will serve Priority Bus Corridors identified by the City of Bellevue (Map TR-5, p. 176)

   Bellevue’s Downtown Subarea Plan:
   * S-DT-138.3 - Implement transit speed and reliability improvements along Downtown transit priority corridors where there is a demonstrated benefit to transit passengers and overall mobility (pg. 108)

   City of Kirkland Comprehensive Plan (2015)
   * Policy T-7.2 - Establish commitments from transit providers to provide high quality transit service in exchange for land use and transportation commitments that support transit. Partner with King County Metro to meet mutual interests. (pg. 73)

   Kirkland’s Totem Lake Business District Plan:
   * Goal TL-15 - Support and promote an improved transit system and access to transit hubs within the Urban Center. (pg. 25)
   * Policy TL-15.1: Work with regional transit agencies to provide a full range of transit service to and within the Totem Lake Urban Center. (pg. 25)

3. **If no, please describe how the project is consistent with the applicable local comprehensive plan, including specific local policies and provisions the project supports. In addition, please describe how the project is consistent with a transit agency plan or state plan, if applicable.**

   N/A

Federal Functional Classification

1. **Functional class name**
   
   14 Urban Principal Arterial
Support for Centers

1. **Describe the relationship of the project to the center(s) it is intended to support.**
   Identify the designated regional growth or manufacturing/industrial center(s) and whether or not the project is located within the center or along a corridor connecting to the center(s).
   
   The project is located within and connects the Kirkland Totem Lake and Bellevue Downtown regional growth centers; the Bellevue’s BelRed, Wilberton/NE 8th, and Bridle Trails subareas; and the Metro designated local Transit Activity Centers of Lake Washington Institute of Technology, South Kirkland Park & Ride, Eastgate Park & Ride, and Kirkland Transit Center all located along the RapidRide K Line Corridor. The Rapid Ride K Line will also serve Downtown Kirkland, a planned regional growth center.

Criteria: Benefit to Center

1. **Describe how the project will benefit or support the existing and planned housing and employment development of a center or centers. Does it support multiple centers?**
   
   The RapidRide K Line corridor serves some of the most significant sources of residential housing density and employment activity in the region. Nearly 59,000 residents and 112,700 employees are located within ½ mile of the corridor, a majority of those totals within Kirkland and Bellevue’s designated regional and local growth centers.
   
   In both PSRC Vision 2040 and local comprehensive plans, these centers will continue absorbing a significant share of East King County’s population and employment growth through increased land use densification with forecasts indicating over 88,600 residents and 137,000 employees located within ½ mile of the corridor by 2040.
   
   Working with the cities of Bellevue and Kirkland, Metro has analyzed existing conditions along the corridor and identified locations experiencing significant traffic congestion and unacceptable delay. By providing both greater transit and general purposed traffic operational efficiency, faster and more reliable connection to other HCT services, and increasing mode shift to transit on the Eastside, the RapidRide K Line will support existing and future housing and employment development. Please see project letters of support in Attachment 2.

   As transportation impacts are a significant growth related concern and constraint to the viability of new developments, the proposed RapidRide K Line Speed and Reliability Improvements project is a low-cost, smart, regional investment to shift increasing transportation demand from SOV to transit, supporting local and regional housing and employment goals in designated centers. Metro’s experience demonstrates that, on average, RapidRide service increases ridership 50% compared to the routes they replace, measured five years after implementation.

2. **Describe how the project will support the development or redevelopment plans and activities (objectives and aims) of a center or centers.**
   
   Both existing and planned regional centers served by RapidRide K Line are expected to have significant growth in the future.
   
   The Totem Lake regional center is a significant location of activity in Kirkland that provided a third of Kirkland’s jobs and sales tax revenue in 2015. Totem Lake is poised to continue its status as a primary growth center in Kirkland. RapidRide K Line service will be critical to expand high-quality transit service between Totem Lake and other regional centers and local centers on the Eastside.
   
   Significant population and employment growth and transit supportive land use densities are forecast through the year 2035, with residents forecast to increase from 4,680 (2014) to 8,678 (2035) and employees forecast to increase from 14,806 (2014) to 20,602 (2035) as provided in Kirkland’s Totem Lake Business District Plan Policies:

   TL-1.1 ”Ensure that new development meets minimum development intensity thresholds required within the Urban Center.”; and
   
   TL-1.2 ”Support the Urban Center as a primary location for added growth to foster a vibrant mixed use environment in the day and evening.”

   Kirkland’s proposed Downtown Regional Growth Center is 519 acres and includes the existing City CBD, the Moss Bay Neighborhood, nearby areas with existing or planned higher-density commercial and residential uses, and the area surrounding the I-405/NE 85th Street ST STRIDE BRT station. According to Kirkland, the city center now has approximately 6,700 residents and 17,000 jobs, and through 2035, the city anticipates that the center will continue to rapidly grow with a 2035 population forecast of 39,000 and employment increasing by another 9,000.
Policies from Kirkland’s Greater Downtown Kirkland Urban Center Plan (2019):

Policy RH 7 “Focus commercial and mixed use development in the following locations:
• In the NE 85th Street corridor, close to existing or planned high capacity transit, utilizing both the new Sound Transit I-405 Bus Rapid Transit Station at the NE 85th Street/I-405 freeway interchange and future business access and transit (BAT) lanes along NE 85th Street as a catalyst for expanded transit oriented development in the Rose Hill Business District.”

Policy RH 24 “Establish the parameters of future transit oriented redevelopment in RH 1, 2 and 3 in a Transit Station Area Plan that coordinates land use, transportation, economics and urban design, elements in partnership with Sound Transit, King County Metro, and WSDOT. The initial stages of the Transit Station Area Plan should establish the full boundaries of the station area to fully integrate the station with the surrounding land uses.”

Bellevue Downtown regional growth center is a major employment and residential center in King County and serves as a large activity hub for the greater Eastside. RapidRide K Line, with its connections to other HCT transit services, is needed to provide additional travel mobility and capacity to help support this important Eastside center. Growth through 2035 will be substantial, with residential increased from 14,000 (2017) to 22,200 (2035) and jobs increasing from 50,000 (2017) to 72,700 (2035). Bellevue’ Downtown Plan vision is “...a dense, mixed-use urban center that has a high pedestrian orientation and range of complementary land uses.” supported by fast and reliable RapidRide K-line service.

3. Describe how the project improves access to major destinations within the center, including enhanced opportunities for active transportation that can provide public health benefits through the following relevant areas: walkability, public transit access, public transit speed and reliability, bicycle mobility and facilities, streetscape improvements, etc.

The project will improve access and mobility to major destinations in both urban centers to nonmotorized travelers including the Village at Totem Lake, a large mixed-use redevelopment of Totem Lake Malls, the Evergreen Health Medical Center (largest employer in Kirkland), and the Eastrail regional corridor. Studies show that people who ride transit are more likely to get regular physical activity simply by walking to and from transit stops, so access to high quality transit service supports public health goals.

Proposed project improvements will:

1) Increase transit ridership, extending public health benefits to a larger segment of the population;

2) Provide a vital link to non-motorized transportation systems, extending access and range of trip lengths for non-motorized riders and active transportation health benefits.

3) Improved access and service reliability to three major transit centers (Totem Lake, Kirkland and Bellevue), and five park and ride lots (Kingsgate, Kirkland Way, S. Kirkland, Wilberton and Eastgate) providing connecting transit service to other major destinations across the region. These service connections will increase active transportation health benefits for existing and new riders traveling to other regional and local center and connecting destinations outside the RapidRide K Line Corridor;

3) The project is forecasted to reducing vehicle toxics emissions and greenhouse gases as a result of improved transit operations, improved general purpose traffic operations, and increased mode shift to transit from (SOV) providing positive health benefit impacts for the population within the service area; and

4) All Metro buses are equipped with bike racks that hold up to three bikes, providing opportunities for cyclists to use the route.

4. Describe how the project provides a range of travel modes to users traveling to centers, or if it provides a missing mode.

The project will provide benefits to multiple modes of travel within and along the corridors serving regional centers strengthening and providing redundancy in the regional transportation system by providing transit with a competitive travel time and reliability when compared to single occupant vehicle travel. Travelers will have a faster and more reliable, transit alternative to reach jobs, services, residential and recreation areas and trails in growth centers and on the connecting corridors, attracting more riders to transit.

General purpose, truck freight, car/vanpool, and rideshare modes traveling the corridor will also benefit from improved traffic operations and improved speeds as the project includes improved signal timing and channelization, resulting in higher traffic flow. The project would help reduce traffic congestion on the corridor and parallel arterial and highway corridors serving the same destinations by increasing transit ridership through mode shift from SOV trips.

RapidRide also provides a vital link to non-motorized transportation systems, including
improved access to/from regional trails like the Eastrail in Bellevue and Kirkland. This project will save travelers time and increase mobility that will extending the range of trip lengths and increasing destinations accessibility. All RapidRide fleet provides the ability to transport bicycles.

In addition, RapidRide K Line will bring a significant investment in access infrastructure for people walking and biking to the new BRT line, including improved lighting, crossings, and sidewalk connections. The improvements to service quality from this project provide additional value to these riders.

5. **Describe how the project will benefit a variety of users, including commuters, residents, and commercial users.**

The proposed speed and reliability improvement to the RapidRide K line corridor will help meet the travel needs of an increasing number of commuters and residents living, working, accessing services, shopping and recreating within areas accessed by the corridor.

- Commuters will have fast, reliable transit service to worksite and commercial areas containing nearly 59,000 existing jobs located within and between multiple regional growth centers located within ½ mile of the corridor.

- Residents, including historically underserved populations will have faster and more reliable access to housing including large multifamily developments and senior apartment complexes, employment and training opportunities, shopping and commercial services, medical and human service resources, and recreation destinations. The project’s targeted improvements will decrease average bus trip travel times by 13-25 minutes per trip, and decrease transfer wait times reducing delay for all riders and extending the range of destinations due to time-constrained trip lengths.

- Commercial users will benefit from improved general purpose traffic flow and reduced conflicts with buses from speed and reliability treatments such as improvements to traffic signal timing and improved channelization.

- Faster, more reliable and easier to access bus service will result in increased ridership, higher corridor person throughput, fewer SOV’s on the corridor and on other congested arterials and highways, better transfer experiences for riders, and safer active transportation access. Ridership is expected to increase 15% - 30%, improve traffic flow and congestion along the RapidRide K Line corridor which will benefit all travelers on the corridor.

- The longer daily service span associated with RapidRide service, increased daily frequencies, improved schedule reliability (with real time signage), and distinctive RapidRide color and facility identification also benefits all user groups including visitors, increasing transit’s utility as an attractive alternative to using a vehicles.

6. **Describe how the project will benefit those groups identified in the President’s Order for Environmental Justice, seniors, people with disabilities, those located in highly impacted communities, and/or areas experiencing high levels of unemployment or chronic underemployment.**

This project will provide improved transit access and mobility to communities with high percentages of populations defined in Metro Transit’s Mobility Framework (2019) as “areas of unmet need”. King County Metro has prioritized the RapidRide K Line for early implementation helps King County meet its social equity and environmental justice goals identified in the County’s Equity and Social Justice Strategic Plan including people with low income, people of color and people who speak little or no English.

There are nearly 160,000 jobs served by the corridor, including lower paying retail and food service jobs whose employees travel from residential locations outside of the RapidRide K-line service area. By providing faster transit speed and service reliability, and decreased wait time for timed transfers from other transit routes and services, this project will improve access and mobility to these and future workers seeking increasing employment opportunities within the corridor.

In addition to improved employment access and mobility, the RapidRide K Line will benefit transit dependent populations by providing affordable, reliable and frequent access to housing, medical, shopping, social service and other destinations located within the corridor. High capacity transit service such as RapidRide K Line reduces the cost burden of transportation by making car ownership optional rather than required to meet the needs of daily life.

The project will also benefit customers with disabilities. All Metro buses are equipped with wheelchair lifts and RapidRide will include features such as passive wheelchair restraints on board buses, as well as changes to platform height to allow for near level boarding wherever possible.

7. **Describe how the project will support the establishment of new jobs/businesses or the retention of existing jobs/businesses including those in the industry clusters identified in the adopted Regional Economic Strategy.**
Consistent with a foundational goal of PSRC’s 2017 Amazing Place Regional Economic Strategy of “Ensuring residents have access to family wage jobs and employers have access to world class talent”, this project would provide new high capacity transit access to jobs from the industry clusters identified in the plan. PSRC’s Amazing Place Economic Strategy references the link between the region’s vitality and a healthy transportation system, and the positive relationship between industry and transit is referenced in numerous other regional and local planning documents.

RapidRide K Line increases the mobility and accessibility of workers accessing employment within the corridor and to worksites the corridor connects across the region, ensuring a competitive pool of workers. Of particular note is the extended service hours that come with King County RapidRide, allowing access to jobs in industry clusters such as tourism and other service sector jobs that typically work off-peak shifts.

Adding a new HCT service with extended service hours will help improve the viability and sustainability of connected local and regional growth centers. Providing improved transit efficiency between housing and employment, reduces household transportation costs and increases the person carry capacity of the regional transportation system.

Another measure of success in reducing household transportation costs is the successful implementation of sustainable transit oriented developments (TOD). While local land use zoning and plans dictate the viability and location of TODs, improved high frequency transit service and infrastructure needed to support TODs is an essential ingredient. This project supports TOD planning and development within regional and local centers in Bellevue and Kirkland by providing transit speed and reliability improvements necessary to implement new HTC RapidRide service and stations along the RapidRide K Line Corridor.

8. **Does the project promote Commute Trip Reduction (CTR) opportunities?**

Yes, the project promotes CTR opportunities by making transit a more attractive option compared to single occupancy vehicles (SOV).

According to WSDOT, there are 58 CTR affected worksite in Bellevue and 16 in Kirkland alone. By improving transit speed and schedule reliability, RapidRide K Line will provide a more attractive commuting option compared to SOV travel for employees to many of these worksites located within the RapidRide K Line Corridor. As the corridor will connect to other HCT transit services spanning the region, the proposed speed and reliability improvements will provide benefits to employees living within the RapidRide K Line Corridor who commute to CTR affected site in other parts of the region.

In addition, Metro’s Robust TDM program, with support from local partner cities TMAs and nonprofits, will support and promote this project’s benefits as part of marketing the RapidRide K Line to employers within the travel sheds of the affected growth centers.

**Criteria: System Continuity/Long Term Benefit-Sustainability**

1. **Describe how this project provides a "logical segment" that serves a center, or allows users to access the system.**

The planned speed and reliability improvements are logical next steps to improving system operation along this corridor. Addressing congestion and increasing through-put in the corridor through major road widening is not feasible due to cost. The proposed specific corridor improvements implemented as part of this project will increase access to and from the connected centers.

In developing METRO CONNECTS, Metro used current and forecasted population, housing and employment figures and targets to identify priority service needs and recommend a future 2025 and 2040 transit network to support planned growth consistent with PSRC’s regional Framework. The RapidRide K Line was identified as a logical corridor investment to support King County Metro’s core priorities of providing fast and reliable transit service by significantly increasing transit speed and reliability and reducing bus travel times to support North South travel demand between the Kirkland Totem Lake and Bellevue Downtown regional growth centers.

Additionally, Metro has done extensive work with the cities of Bellevue and Kirkland to inventory and analyze the RapidRide K Line corridor, resulting in a preliminary corridor report. This report identified the locations in the corridor that were experiencing congestion, provided analysis of potential projects to address congested areas, and estimated costs for those investments (please see Attachment 4)

Based on this analysis, Metro and our partner cities are identifying the logical strategic investments along the corridor connecting two regional growth centers and other areas of concentrated employment along the corridor, such as Downtown Kirkland, a planned regional growth center. The identified speed and reliability improvements would improve trip travel times in the corridor by 15 - 30%.
Improvements to the RapidRide K Line corridor provide access to many other regional and local centers by connecting service through the Totem Lake Transit Center, Kirkland Transit Center, Kingsgate Park and Ride, Kirkland Way Park and Ride, South Kirkland Park and Ride, Bellevue Transit Center, Wilburton Park and Ride, NE 85th St Station, and the Eastgate Park and Ride with transfers to the existing RapidRide B Line, and ST’s planned East Link and I-405 STRIDE BRT Lines.

2. **Describe how the project fills in a missing link or removes barriers to a center (e.g., congestion, inadequate transit service/facilities.). Describe how this project will relieve pressure or remove a bottleneck on the Metropolitan Transportation System and how this will positively impact overall system performance.**

This project will remove barriers that hinder transit from accessing the regional and local centers in a timely and reliable way. Congestion along these routes creates a travel time barrier that pushes potential transit users to other modes due to the time penalty of using transit. The project targets strategic low-cost investments that would have the greatest impact on reducing delay and improve transit service reliability performance as well as general purpose traffic flow on the RapidRide K Line corridor.

The project would address critical bottlenecks and congested corridor segments by implementing traffic engineering solutions such as updated traffic signal timing plans, improved channelization, and transit signal priority. By updating signals and channelization, traffic bottlenecks can be removed, improving traffic flow for all modes using the corridor.

By increasing transit ridership and mode shift from SOVs, RapidRide K line service will help relieve congestion bottlenecks and segments on other regional transportation corridors (e.g., I-405). It will provide a missing HCT RapidRide Link to other HCT services as well as to transit services at transit centers and major park and ride lots along the corridor such as RapidRide B Line and ST’s East Link and STRIDE BRT which provide access to many other regional centers, such as Redmond Downtown Redmond Overlake, Seattle University Community, and a the cluster of four centers surrounding the Seattle CBD.

3. **Describe how this project addresses safety and security.**

The project addresses both safety and security along the corridor in several ways:

1) Reduces conflict between general purpose traffic and transit by providing transit only lanes, improved channelization, and transit queue jumps at key intersections. This will lower collision rates and improve the operational efficiency of the corridor.

2) Upgrades bus stations and transit center amenities such as lighting at shelters, improved sidewalks, street crossings, and improved access to bus stops. Improved lighting, access and sidewalks will increase safety both at and near RapidRide stations.

3) Deploys Metro’s new RapidRide station and kit of parts, including updated lighting, a more visible pylon, real time signage and more open and transparent shelters.

In addition, RapidRide K Line will complete a Federal Transit Administration Safety and Security Management Plan, a planning document typically required of projects in Project Development for the FTA Small Starts grant process.

4. **Describe how the project improves intermodal connections (e.g., between autos, ferries, commuter rail, high capacity transit, bus, carpool, bicycle, etc.), or facilities connections between separate operators of a single mode (e.g., two transit operators).**

Faster, more reliable RapidRide K Line trips will result in fewer missed transfers, reduced schedule deviations, and less waiting for transfer connections to/from other modes, resulting in substantially shorter travel times. This increases the efficiency and effectiveness of the service to connect to other transportation modes and services, providing a more interconnected and efficient regional transportation system.

Two important connection points will be at NE 85th St Station, where RapidRide K Line will connect with I-405 Stride BRT, and Downtown Bellevue Station, where RapidRide K Line will connect with Link light rail. Investments will be made at and near both of these locations to ensure that transit riders can reliably get to transfer points, making transfers between modes quick and efficient. The RapidRide K Line corridor will also connect with Eastrail non-motorized trail, providing safe and protected non-motorized access to destinations all along East King County.

5. **If applicable, describe how the project provides an improvement in travel time and/or reliability for transit users traveling to and/or within centers.**

Targeted project improvements along the route are intended to provide average travel time savings of 15-30% (13 to 25 minutes per trip). Project Improvements will be focused on bottlenecks and congested segments in the areas where needs are the greatest. Improvements to schedule reliability are one of the most important benefits of this project. See Attachment 4 for listing of the planned improvements along the corridor.

6. **If applicable, describe how the project increases transit use to or within centers.**
By improving transit speed and schedule reliability, and constructing access improvements to select bus stops, the project is forecasted to increase ridership 63% to 10,900 average weekday trips with the introduction of RapidRide service in 2025. With increased schedule on-time reliability, the project will also improve rider transfer experiences connecting to other transit services and other modes. With faster, more reliable trips and better transit access, transit will become more useful to people living and working within growth centers.

7. Describe how this project supports a long-term strategy to maximize the efficiency of the corridor? Describe the problem and how this project will remedy it.

This project supports a long-term strategy of maximizing the efficiency and person throughput of this corridor. It does this by making affordable strategic improvements that will give transit preferential treatment and priority over general purpose users. Once these improvements are in place they will be permanent and provide a long term benefit by allowing transit to bypass or have preferential treatment along segments of the corridor and at key intersections that experience congestion.

The problem in this corridor is that it is located in a dense urban environment with high levels of congestion. Increasing the operational efficiency and person throughput by widening the roadway throughout the corridor is cost prohibitive, but strategic spot widening to increase the operating efficiency of transit service may be implemented (see Attachment 4).

The evaluation process to identify priority speed and reliability projects is established as part of Metro’s long-range planning efforts with annual system performance evaluations and special studies. The project improves a priority transit corridor identified in Metro Connects (2017) that provides transit service in support of regional and local centers development in East King County. This corridor currently has frequent transit service and was recommended for conversion to RapidRide BRT service by 2025.

Both Bellevue and Kirkland are experiencing tremendous growth, which is projected to continue into the future. The transportation system will not be able to accommodate this growth without transit investments to increase transit mode share. By increasing transit speed, reliability and performance efficiency within the RapidRide K Line corridor in Bellevue and Kirkland, the project will increase person carrying throughput capacity. While regional transit investments like Sound Transit I-405 Stride BRT will increase capacity for long-distance travel, RapidRide K Line will increase capacity for short-to-medium length trips.

Criteria: Air Quality and Climate Change

1. Please select one or more elements in the list below that are included in the project’s scope of work, and provide the requested information in the pages to follow.
   - Roadway Improvement, Transit and Ferry Service, Intelligent Transportation Systems

   Air Quality and Climate Change: Roadway Improvement

   1. **What is the length of the project?**
      15.24 miles

   2. **What is the average daily traffic before and after the project?**
      AADT’s along the corridor range from approximately 5,000 to 40,000. Metro currently has not compiled specific corridor traffic forecasts, but volumes will increase.

   3. **What is the average speed before and after the project?**
      The improvement to average speeds has not been calculated for the various corridor segments. Overall travel time has been estimated. See response to question 6 below.

   4. **What is the average daily transit ridership along the corridor?**
      5,300 average daily boardings.

   5. **How many daily peak period transit trips serve the corridor?**
      There will be 12 daily peak hour trips, with 6 each direction (at 10 minute headways). In the 3-hour peak period there would be 36 peak period trips.

   6. **What is the expected increase in transit speed due to the BAT/HOV lanes?**
      The target travel time improvement for the K Line corridor is 15-30%. During the PM Peak, this would be 12.5 – 25 minutes in savings from end to end. This estimated improvement incorporates all potential speed and reliability improvements, not just BAT/HOV lanes.

   7. **What is the expected increase in transit ridership due to the BAT/HOV lanes?**
      Increased ridership tied specifically for BAT/HOV lanes has not been calculated.

   8. **What is the percentage of freight truck traffic on the facility?**
      Portions of the corridor are designated as T-2 and T-3 routes: T-2 carries 4 mil to 10 mil. tons
9. **Will the project result in shorter trips and reduced VMT? If so, please explain.**
   Yes. The increase in speed, reliability, and ridership will remove private vehicles from the roadway, reducing total VMT.

10. **Please describe the source of the project data provided above (e.g., Environmental Impact Statement, EPA/DOE data, traffic study, survey, previous projects, etc.).**
    RapidRide Expansion Program Corridor Evaluation Report - Corridor 1027 (April 2019)

### Air Quality and Climate Change: Transit and Ferry Service

1. **What is the current transit ridership for the affected transit stops or routes?**
   There are approximately 6,700 daily boardings on the segments of routes 234, 235, 255, and 271 that will be upgraded to create RapidRide K Line.

2. **What is the average transit trip length for the affected routes?**
   Routes 255 and 271 provide express service to Seattle in addition to providing local service in Kirkland and Bellevue, so their average trip lengths do not provide an accurate representation for the RapidRide K Line corridor. Routes 234 and 235 provide only local service, so their average trip lengths are most relevant. In 2018, Route 234 had an average transit trip length of 5.6 miles, and Route 235 was 4.7 miles. The total RapidRide K Line corridor length is 15.24 miles.

3. **What is the average transit trip length of the entire system?**
   The system wide average Metro trip length is 10.4 miles. The average passenger miles traveled for the system is 4.6 miles.

4. **If the project includes a park and ride, how many new stalls are being provided?**
   N/A

5. **Are there other amenities included to encourage new transit ridership? If so, please describe.**
   RapidRide incorporates unique branding, stations, and vehicles; off-board fare collection; transit signal priority; transit priority lanes; and other infrastructure improvements.

6. **What is the expected increase in transit ridership from the project?**
   Approximately 4,200 new daily riders.

7. **If a new or expanded ferry service, what is the length of the driving route being replaced?**
   N/A

8. **Please describe the source of the project data provided above (e.g., Environmental Impact Statement, EPA/DOE data, traffic study, survey, previous projects, etc.).**
    RapidRide Expansion Program Corridor Evaluation Report - Corridor 1027 (April 2019)

### Air Quality and Climate Change: Intelligent Transportation Systems and Corridor Efficiency

1. **What is the existing level of service?**
   The existing level of service along the K Line corridor varies with certain sections suffering from significant levels of congestion (LOS F while others operate in free flow (LOS A). Nine of the intersections studied along the project corridor do not meet jurisdictional mobility standards.

2. **What are the existing number of lanes (in one direction)?**
   Streets in the project corridor generally have 1 or 2 lanes in each direction.

3. **What is the existing average daily traffic?**
   AADT’s along the corridor range from approximately 5,000 to 40,000.

4. **What is the existing average speed?**
   Posted speed limits along the corridor range from 20 mph to 35 mph.

5. **What are the ITS improvements being provided?**
   ITS improvements for speed and reliability will focus on upgrades necessary to implement next generation transit signal priority (TSP) on intersections throughout the corridor.

6. **How many intersections are being improved?**
   All signalized intersections are expected to have the capability for TSP. The project will determine which intersections can most benefit from TSP and implement TSP at those
locations. That number is still being determined.

7. What is the length of the project?
   15.24 miles

8. What is the percentage of freight truck traffic in the project area?
   Portions of the K Line corridor are designated as T-2 or T-3 routes. Percentage of truck traffic has not been determined.

9. What is the expected improvement to level of service?
   Please utilize regional default data.

10. What is the expected improvement to average speed?
    Please utilize regional default data.

11. What is the expected improvement to average vehicle delay?
    Please utilize regional default data.

12. Please describe the source of the project data provided above (e.g., Environmental Impact Statement, EPA/DOE data, traffic study, survey, previous projects, etc.)
    PSRC regional default data.

Criteria: Project Readiness and Financial Plan

1. What is the PSRC funding source being requested?
   N/A

2. Has this project received PSRC funds previously?
   No

3. If yes, please provide the project’s PSRC TIP ID
   N/A

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<th>Year</th>
<th>Alternate Year</th>
<th>Amount</th>
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Total Request: $6,000,000.00

Total Estimated Project Cost and Schedule

PE

Funding Source                  | Secured/Unsecured | Amount       |
--------------------------------|------------------|--------------|
Local                           | Reasonably Expected | $3,138,534.00 |
Local                           | Secured           | $829,400.00  |
5309(Bus)                       | Reasonably Expected | $3,967,935.00|
                                |                  | $7,935,869.00|

Expected year of completion for this phase: 2023

ROW

Funding Source                  | Secured/Unsecured | Amount       |
--------------------------------|------------------|--------------|
5309(Bus)                       | Reasonably Expected | $1,172,704.00|
Local                           | Reasonably Expected | $1,172,704.00|
                                |                  | $2,345,408.00|

Expected year of completion for this phase: 2023

Construction

Funding Source                  | Secured/Unsecured | Amount       |
--------------------------------|------------------|--------------|
5307                            | Unsecured        | $6,000,000.00|

Summary

1. Estimated project completion date
   11/2025

2. Pretty total project cost
   $47,556,461.00

Funding Documentation

1. Documents
   Attachment_3.pdf

2. Please enter your description of your financial documentation in the text box below.
   Reasonably expected local match funds will be included as part of the 2023-2024 King County budget. The 2023-2024 budget will be developed in the spring/summer of 2022 and is scheduled for adoption in the fall of 2022.

   To secure an appropriation in the 2023-2024 budget, King County Metro will include a budget request for the RapidRide K Line project. Metro management will approve the program budget request and transmit it to the County Executive's Office by July 1, 2022. The capital and operating budget requests will be reviewed, finalized and sent to the King County Council on September 24, 2022. The Council should adopt the final budget by mid-November 2022.

   Metro Transit’s Adopted 2019-2020 Capital Budget and Capital Improvement Program (CIP) includes project #1134292. The TDC M LINE 234-235-271 RR (TDC TOTEM LAKE EASTGATE RR) project identifies approximately $58 million for the 2023-24 biennium to support the RapidRide K Line project including this speed and reliability project. Please see Attachment 3.

Project Readiness: PE

1. Are you requesting funds for ONLY a planning study or preliminary engineering?
   No

2. What is the actual or estimated start date for preliminary engineering/design?
   7/2019

3. Is preliminary engineering complete?
   No

4. What was the date of completion (month and year)?
   N/A

5. Have preliminary plans been submitted to WSDOT for approval?
   N/A

6. Are there any other PE/Design milestones associated with the project? Please identify and provide dates of completion. You may also use this space to explain any dates above.
   N/A
7. When are preliminary plans expected to be complete? 
   4/2023

Project Readiness: NEPA

1. What is the current or anticipated level of environmental documentation under the National Environmental Policy Act (NEPA) for this project? 
   Documented Categorical Exclusion (DCE)

2. Has the NEPA documentation been approved? 
   No

3. Please provide the date of NEPA approval, or the anticipated date of completion (month and year). 
   5/2021

Project Readiness: Right of Way

1. Will Right of Way be required for this project? 
   Yes

2. What is the actual or estimated start date for right of way? 
   5/2020

3. What is the estimated (or achieved) completion date for the right of way plan and funding estimate (month and year)? 
   7/2021

4. Please describe the right of way needs of the project, including property acquisitions, temporary construction easements, and/or permits. 
   Property acquisitions may be needed for roadway widening for transit speed and reliability improvements. The project will be acquiring in fee and/or permanent easements, as well as temporary construction easements. No permits will be used for right of way.

5. What is the zoning in the project area? 
   The zoning in the project area includes various types of residential, commercial, office and industrial zones.

6. Discuss the extent to which your schedule reflects the possibility of condemnation and the actions needed to pursue this. 
   The RapidRide K Line project schedule reflects the possibility of future property condemnation and the actions required to pursue it.

7. Does your agency have experience in conducting right of way acquisitions of similar size and complexity? 
   Yes

8. If not, when do you expect a consultant to be selected, under contract, and ready to start (month and year)? 
   N/A

9. In the box below, please identify all relevant right of way milestones, including the current status and estimated completion date of each. 
   ROW plans approved (stamped): Will be developed during design and planned to be complete 7/2021. 
   Right of way acquisition: Will begin after ROW plans are approved and planned to conclude 3/2023.

Project Readiness: Construction

1. Are funds being requested for construction? 
   Yes

2. Do you have an engineer's estimate? 
   No

3. Engineers estimate document 
   N/A

4. Identify the environmental permits needed for the project and when they are scheduled to be acquired. 
   The project requires compliance with the National Environmental Policy Act and State Environmental Policy Act. The project is currently in the early stages of environmental review.
and will be identifying specifically which permits are needed. The current schedule for obtaining environmental permits is Summer 2021.

5. **Are Plans, Specifications & Estimates (PS&E) approved?**  
   N/A

6. **Please provide the date of approval, or the date when PS&E is scheduled to be submitted for approval (month and year).**  
   N/A

7. **When is the project scheduled to go to ad (month and year)?**  
   7/2023

**Other Considerations**

1. **Describe any additional aspects of your project not requested in the evaluation criteria that could be relevant to the final project recommendation and decision-making process.**  
   N/A

2. **Describe any innovative components included in your project: these could include design elements, cost saving measures, or other innovations.**  
   N/A

3. **Describe the process that your agency uses to determine the benefits of projects; this could include formal cost-benefit analysis, practical design, or some other process by which the benefits of projects are determined.**  
   N/A

4. **Final documents**  
   Attachment_2.pdf, Attachment_4.pdf
RAPIDRIDE K LINE
Speed & Reliability Improvements Project

The information included on this map has been compiled by King County staff from a variety of sources and is subject to change without notice. King County makes no representations or warranties, express or implied, as to accuracy, completeness, or fitness for a particular purpose. This map is not intended for use as a survey product. Use of this map is at the user's own risk. King County shall not be liable for any general, special, indirect, incidental, or consequential damages including, but not limited to, lost revenues or lost profits resulting from the use or misuse of the information contained in this map. Any sale of this map or information on this map is prohibited except by written permission of King County.

April 27, 2020
April 15, 2020

Mr. Rob Gannon  
General Manager  
King County Metro Transit  
201 South Jackson Street, KSC-TR-0415  
Seattle, Washington 98104  

Dear Mr. Gannon:

On behalf of the City of Kirkland, I am writing to express our support to the King County Metro Transit's application to the 2020 PSRC Regional Federal Transit Administration Competition grant program for the RapidRide K Line Speed and Reliability project.

This project will construct speed and reliability treatments to help meet project goals, including improving transit performance and service quality resulting in lower travel times, increased reliability, increased ridership, and improved access and mobility. The project has a target of improving transit travel times by 15-30% compared to previous local bus service. In addition, this project will connect areas with approximately 101,000 residents and 159,000 jobs. Ridership is forecast to increase by approximately 50% in the project corridor as a result of the project.

By providing improved transit speed and reliability the project will help support existing and planned development densities within two existing Regional Growth Centers, Kirkland Totem Lake and Bellevue, and one planned designated Regional Growth Center, Downtown Kirkland. It will do so by encouraging more efficient use of limited transportation resources and capacity within the centers and on the corridors connecting to these centers.

The project is consistent and supportive of the City's Comprehensive Plan. It is also an important element of broader countywide and regional policies to help meet economic and environmental goals by creating more compact and efficient land use development patterns through transit investment.

We encourage the serious consideration and selection of this project for funding.

Sincerely,

Kurt Triplett  
City Manager

cc: Victor Stover, RapidRide K Line Lead, King County Metro  
Eric Irelan, Grants Administrator, King County Metro
April 8, 2020

Mr. Rob Gannon
General Manager
King County Metro Transit
201 South Jackson Street, KSC-TR-0415
Seattle, Washington 98104

Dear Mr. Gannon:

On behalf of the City of Bellevue, I am writing to express our support to the King County Metro Transit’s application to the 2020 PSRC Regional Federal Transit Administration Competition grant program for the RapidRide K Line Speed and Reliability project.

This project will construct speed and reliability treatments to help meet project goals, including improving transit performance and service quality resulting in lower travel times, increased reliability, increased ridership, and improved access and mobility. The project has a target of improving transit travel times by 15-30% compared to previous local bus service. In addition, this project will connect areas with approximately 101,000 residents and 159,000 jobs. Ridership is forecast to increase by approximately 50% in the project corridor as a result of the project.

By providing improved transit speed and reliability, the project will help support existing and planned development densities within two existing Regional Growth Centers: Kirkland Totem Lake and Bellevue, and one planned designated Regional Growth Center in Downtown Kirkland. It will do so by encouraging more efficient use of limited transportation resources and capacity within the centers and on the corridors connecting to these centers.

The project is consistent and supportive of the City’s Comprehensive Plan and Transit Master Plan. It is also an important element of broader Countywide and regional policies to help meet economic and environmental goals by creating more compact and efficient land use development patterns through transit investment.

We encourage the serious consideration and selection of this project for funding.

Sincerely,

Andrew Singelakis, AICP
Director, Transportation Department

cc: Victor Stover, RapidRide K Line Lead, King County Metro
    Eric Irelan, Grants Administrator, King County Metro
## Capital Appropriation Proposal

**TDC M LINE 234-235-271 RR (TDC TOTEM LAKE EASTGATE RR)**

Baseline Required, Art Eligible

### Department
TRANSPORTATION

### Council District(s)
6

### Fund
3641 PUBLIC TRANS CONST-UNREST

### Class Code
STANDALONE

### Substantial Completion
05/31/2025

### Location
Totem Lake Transit Center to Eastgate, Kirkland and Bellevue.

### Cap Status
Approved

### BUDGET (Appropriation)

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<th>FY21-22</th>
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### ART

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CAP Detail Report Created on: 09/06/2018 03:18 PM
Capital Appropriation Proposal


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BUDGET ANALYSIS

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CAP Detail Report Created on: 09/06/2018 03:18 PM

NARRATIVES

1. CURRENT PROJECT SCOPE

Totem Lake Eastgate RapidRide - This project is a planned RapidRide line for Routes 234/235/271 and extends from Totem Lake Transit Center to Eastgate in Bellevue, passing through the cities of Kirkland and Bellevue. This project would plan, design and implement the necessary infrastructure improvements to launch RapidRide service. These infrastructure projects include passenger facilities, roadway, signal and ITS improvements which result in better transit speed and reliability, access to transit projects which reduce barriers for people to reach transit and necessary communication and technology efforts to support the service. This budget also includes the associated costs for public outreach and marketing (launch of the service). This budget does not include vehicles.

2. PROGRAMMATIC PROJECT DISCUSSION

N/A
3. PROJECT JUSTIFICATION

This project is part of the METRO CONNECTS RapidRide Expansion Program and will be led by King County Metro. This project supports Metro's strategic service goals and is identified in METRO CONNECTS as a RapidRide corridor in the 2025 network. The project will result in improved service and ridership along the corridor and support regional growth. The Totem Lake-Eastgate RapidRide Line was prioritized for implementation based on criteria developed in METRO CONNECTS, including:

- Geographic balance
- Equity and social justice factors
- Ridership growth potential
- Implementation complexity
- Partnership opportunities and commitments
- Grant funding opportunities
- High capacity transit network connectivity

4. PROJECT BENEFITS/OUTCOMES

This project will create a new RapidRide corridor. Historically RR corridors have been a successful way to increase ridership within a corridor area. Most of the previous 6 RapidRide lines have increase daily trips by more than 50% within the first few years of operations.

5. BUDGET REQUEST BASIS

Detailed estimates for project costs have been developed using past agency experience delivering the six original RapidRide lines, along with a detailed work breakdown structure and resource-loaded project schedule identifying the cost associated with each individual component of RapidRide delivery. The requested budget will move the project through the planning phase of project delivery.

6. FUNDING AND REVENUE DISCUSSION

This project is funded primarily through Metro funds. The total spending authority being request is approximately 90% of the Metro Connects cost estimate with approximately 50% of the project funds coming from assumed, yet to be identified, grants. The remaining 10% of the cost estimate assumed by Metro Connects is assumed to come from Partner Agency contributions and or projects carried out by partners.

7. OPERATING BUDGET AND OTHER IMPACTS

This capital project will create assets which need to be maintained along the corridor. These assets include shelters, real time information signs, trash bins and ORCA fare collection equipment.

8. PROJECT STATUS

This project is currently in the pre-planning stage. This project is expected to be advertised for a consolidated planning and design contract in 2019.

9. ALTERNATIVES ANALYSIS

Alternative Analysis is anticipated to be carried out during the pre-design phase and will include a substantial public engagement element. A preferred alignment will then be approved via the existing King County Metro Council alignment approval process.

10. OTHER AGENCY INVOLVEMENT

This project will require the involvement of other agencies where work will be conducted for permitting and potentially funding partnership. The METRO CONNECTS proposed 2025 network was discussed both regionally and locally with the impacted jurisdictions. As the project enters the pre-design phase, other agency involvement will significantly increase.

11. ART ELIGIBILITY

N/A, Art eligible

12. EQUITY AND SOCIAL JUSTICE IMPACT
13. STRATEGIC CLIMATE ACTION PLAN ALIGNMENT

This project directly supports Goal Area 1 (Transportation and Land Use) in King County's Strategic Climate Action Plan and overall reduction in emissive pollution by promoting transit along these proposed RapidRide corridors. Capital assets built and installed along the corridor will meet King County's Green Building ordinance where required and allowable.

14. OTHER CONSIDERATIONS (OPTIONAL)

ADDITIONAL QUESTIONS FOR IT PROJECTS ONLY

15. STRATEGIC IT PLAN ALIGNMENT

16. PROJECT COMPLEXITY

17. CAPACITY TO IMPLEMENT THE PROJECT

18. PROJECT RISKS
## Table 11-3. Potential Speed and Reliability Improvements for Option 3

<table>
<thead>
<tr>
<th>Index</th>
<th>Improvement Type</th>
<th>Description</th>
<th>Benefits to Transit</th>
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</thead>
<tbody>
<tr>
<td>3A</td>
<td>Transit Lane</td>
<td>Install a peak-hour-only BAT lane with peak hour street parking restrictions on the south side of Central Way between 3rd Street and 4th Street.</td>
<td>Reduces directional peak hour delay.</td>
</tr>
<tr>
<td>3B</td>
<td>Infrastructure</td>
<td>Modify eastbound channelization and install a queue jump lane at 6th Street and NE 85th Street.</td>
<td>Allows bus to bypass queue.</td>
</tr>
<tr>
<td>3C</td>
<td>Infrastructure</td>
<td>At the eastbound approach of Kirkland Way and NE 85th Street, convert the eastbound right turn pocket to a BAT lane with an early green queue jump phase. For the westbound approach, convert the westbound shared through and right turn lane between the I-405 off-ramp and Kirkland Way into a BAT lane. This would require removal of the channelized right turn pocket at the I-405 southbound off-ramp and NE 85th Street, as well as modification of the island and the off-ramp channelization to consolidate all off-ramp movements into one or two lanes. This off-ramp intersection may require signalization.</td>
<td>Allows bus to bypass queue. Provides easy access to the far side bus stop.</td>
</tr>
<tr>
<td>3D</td>
<td>Traffic Control</td>
<td>Provide TSP at three intersections along NE 85th Street from 120th Avenue NE to 124th Avenue NE. Consider optimizing signal timings along NE 85th Street to improve eastbound and westbound movement progression.</td>
<td>Prioritizes the bus movements.</td>
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<td>3E</td>
<td>Infrastructure</td>
<td>Three options are proposed at 124th Avenue NE and NE 85th Street: 1) Extend the eastbound left turn pocket length to the full block. This would require removal of the left turn pocket at the intersection of 122nd Avenue NE and NE 85th Street, and restriction of westbound left turning vehicles at 122nd Avenue NE or adjustment of signal timings at 122nd Avenue NE. 2) Modify the eastbound channelization to add double left turn pockets and optimize signal timings. 3) Optimize the NE 85th Street corridor signal timing to improve eastbound traffic progression.</td>
<td>1) Allows buses to enter into the left turn pocket early without being blocked by the eastbound through queue. 2) and 3) Transit operation would benefit from the overall traffic operation improvement.</td>
</tr>
<tr>
<td>3F</td>
<td>Infrastructure</td>
<td>Convert all pull-out bus stops along 124th Avenue NE between NE 85th Street and NE 116th Street to in-lane bus stops for both the northbound and southbound directions. These would include four pairs of bus stops (eight bus stops in total) after stop optimization along this corridor.</td>
<td>Reduces delays associated with merging in and out of the bus stop.</td>
</tr>
<tr>
<td>3G</td>
<td>Infrastructure</td>
<td>Install a short queue jump lane for the northbound and southbound approaches at 124th Avenue NE and NE 90th Street. This would require right-of-way acquisition. Alternately, provide TSP to the northbound and southbound directions.</td>
<td>Allows bus to bypass queue. Prioritizes the bus movements.</td>
</tr>
<tr>
<td>3H</td>
<td>Infrastructure</td>
<td>Install an approximately 200-foot-long southbound queue jump lane at 124th Avenue NE and NE 100th Street. This would require right-of-way acquisition.</td>
<td>Allows bus to bypass queue.</td>
</tr>
<tr>
<td>3I</td>
<td>Infrastructure</td>
<td>At the 124th Avenue NE and NE 116th Street intersection, convert the northbound right turn lane into a short BAT lane and modify the eastern curb line on 124th Avenue NE north of the NE 116th Street to provide a bus receiving lane. Implement a reverse bus queue jump to create a gap in traffic for buses exiting the northbound out-of-lane bus stop on 124th Avenue NE. For the southbound approach, convert the southbound curb right turn/through lane into a BAT lane with an early green bus queue jump phase.</td>
<td>Allows bus to bypass queue.</td>
</tr>
</tbody>
</table>
Table 11-3. Potential Speed and Reliability Improvements for Option 3 (continued)

<table>
<thead>
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<th>Improvement Type</th>
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</thead>
<tbody>
<tr>
<td>3J</td>
<td>Infrastructure</td>
<td>For the southbound direction in this segment, convert the middle southbound left turn lane at the 120th Avenue NE and NE Totem Lake Boulevard intersection into a bus-only turn lane, and install a southbound BAT lane along the Totem Lake Boulevard and 124th Avenue NE corridor between 120th Avenue NE and NE 120th Street. The BAT lane installation would entail three elements: 1) conversion of the southbound curb general-purpose lane on Totem Lake Boulevard between 120th Avenue NE and the pork chop island near NE 124th Street, 2) removal of segments of the pork chop island at NE 124th Street and Totem Lake Boulevard to add an additional southbound bus-only lane, and 3) re-striping the southbound drop/merge lane on 124th Avenue NE between NE 124th Street and NE 120th Street into a bus-only lane with a bus queue jump phase at 124th Avenue NE and NE 120th Street.</td>
<td>Reduces delays.</td>
</tr>
<tr>
<td>3K</td>
<td>Infrastructure</td>
<td>Convert the northbound right turn lane into a right turn/bus queue jump lane at Totem Lake Boulevard NE and NE 124th Street.</td>
<td>Allows bus to bypass queue.</td>
</tr>
<tr>
<td>3L</td>
<td>Traffic Control</td>
<td>Install TSP at the intersection of 120th Avenue NE and Totem Lake Boulevard NE.</td>
<td>Prioritizes the bus movements.</td>
</tr>
<tr>
<td>3M</td>
<td>Infrastructure</td>
<td>Adjust the circulation into and out of the Totem Lake Transit Center so that buses turn right into the pavilion at the 120th Avenue NE and NE 128th Street intersection, rather than left out of the transit center. This improvement will require signalizing the outbound intersection to accommodate the left turns. The turn radius may need to be improved for buses making a right turn from 120th Avenue NE destined for the Totem Lake Transit Center, and the bus stops would need to be moved to the right side of the transit center.</td>
<td>Improves bus circulation into the transit center.</td>
</tr>
</tbody>
</table>
Figure 11-5. Potential Speed and Reliability Improvements
<table>
<thead>
<tr>
<th>Index</th>
<th>Improvement Type</th>
<th>Description</th>
<th>Benefits to Transit</th>
<th>Modeled in Synchro?</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>Transit Lane</td>
<td>Restrict 3rd Street between Central Way and Kirkland Avenue to transit only, allowing limited vehicle access to left turns in/out of the parking garage and surface lots.</td>
<td>Removing general-purpose traffic through the transit center minimizes bus-vehicle conflicts (both crashes and right-of-way).</td>
<td>Yes</td>
</tr>
<tr>
<td>N</td>
<td>Traffic Control</td>
<td>Currently, Kirkland Way is a shared westbound through-left lane at the Kirkland Avenue intersection. Restrict the westbound left turns and reroute this movement to the 6th Street to reduce delays at Kirkland Avenue and Kirkland Way.</td>
<td>Reduces delays associated with vehicles turning left in the westbound direction.</td>
<td>Yes</td>
</tr>
<tr>
<td>O</td>
<td>Infrastructure</td>
<td>Install a traffic signal at Kirkland Way and 6th Street to manage the high north-south to east-west volumes. Equip signal with TSP.</td>
<td>A traffic signal helps manage traffic flow through this intersection.</td>
<td>Yes</td>
</tr>
<tr>
<td>P</td>
<td>Infrastructure</td>
<td>Convert Kirkland Way and Kirkland Avenue to a couplet; in the northbound direction buses would turn left at Kirkland Way/6th Street, in the east/southbound direction buses would make an eastbound right on Kirkland Avenue.</td>
<td>Allows eastbound buses to bypass the sharp eastbound right turn at Kirkland Way/6th Street.</td>
<td>Yes</td>
</tr>
<tr>
<td>Q</td>
<td>Infrastructure</td>
<td>Provide in-lane stops with bus bulbs between the intersections of Kirkland Way/6th Street and 108th Avenue NE/NE 37th Court. This improvement would benefit from moving bus stops to the far side of the intersections.</td>
<td>Reduces delays associated with merging in and out of the bus stop. Provides additional space for bus stop amenities.</td>
<td>No</td>
</tr>
<tr>
<td>R</td>
<td>Traffic Control</td>
<td>The 116th Avenue NE and Northup Way intersection is part of the City of Bellevue’s adaptive signals. Consider a lower cycle length through this intersection to improve vehicle progression.</td>
<td>Reducing the cycle length improves vehicle progression through this intersection.</td>
<td>Yes</td>
</tr>
<tr>
<td>S</td>
<td>Infrastructure</td>
<td>Widen the intersection of 6th Street S and NE 68th Street. Convert the northbound through-right lane to a BAT lane and widen the west side of the street to provide a southbound queue jump lane. Add TSP to prioritize the northbound BAT lane and southbound queue jump lane. Also, consider realigning the intersection to tighten the turn radius for the right turn movement.</td>
<td>Prioritizes the bus movements through this intersection.</td>
<td>Yes</td>
</tr>
<tr>
<td>T</td>
<td>Traffic Control</td>
<td>Provide an overlapping southbound left and westbound right phase at 108th Avenue NE/Northup Way. This will require converting the shared westbound through-right curb lane to a westbound right-only lane.</td>
<td>Moves westbound right turn vehicles to an exclusive lane and provides additional green time for the bus movements.</td>
<td>Yes</td>
</tr>
<tr>
<td>U</td>
<td>Traffic Control</td>
<td>Install TSP at five intersections between 108th Avenue NE/Northup Way and 116th Avenue NE/NE 10th Street.</td>
<td>Prioritizes the bus movements.</td>
<td>No</td>
</tr>
<tr>
<td>V</td>
<td>Traffic Control</td>
<td>Add TSP for the eastbound left turn movement at 116th Avenue NE/NE 8th Street. Additionally, add TSP at 110th Avenue NE/NE 8th Street. As an alternative, consider rerouting buses to NE 10th Street to avoid high volumes destined to/from downtown Bellevue.</td>
<td>Prioritizes transit movements in the in/out of downtown Bellevue.</td>
<td>No</td>
</tr>
<tr>
<td>W</td>
<td>Traffic Control</td>
<td>Make the east-westbound through movements at I-405 northbound ramp and NE 4th Street a leading phase and the eastbound left a lagging phase.</td>
<td>Prioritizes the east-west transit movements.</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Table 7-1. Potential Speed and Reliability Improvements for Corridor 1027 (continued)

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</thead>
<tbody>
<tr>
<td>X</td>
<td>Infrastructure</td>
<td>Widen the intersection of 116th Avenue NE and NE 4th Street to allow an eastbound right turn pocket. Additionally, provide an eastbound right overlap with the northbound left turn. If the City of Bellevue proceeds with plans to extend NE 6th Street east of I-405 to 120th Avenue NE, consider rerouting the bus to this new street rather than continuing on NE 4th Street. This would reduce eastbound through conflicts on NE 4th Street associated with the I-405 off-ramp.</td>
<td>Increases the signal and lane capacity of buses.</td>
<td>Yes</td>
</tr>
<tr>
<td>Y</td>
<td>Traffic Control</td>
<td>Provide TSP at eight intersections from 116th Avenue NE/SE 1st Street to 145th Place SE/SE 24th Street.</td>
<td>Prioritizes the bus movements along this stretch of the corridor.</td>
<td>No</td>
</tr>
<tr>
<td>Z</td>
<td>Transit Lane</td>
<td>Provide a southeast through BAT lane on Lake Hills Connector from the I-405 off ramp to the Lake Hills Connector/SE 8th Street intersection. At the intersection, convert the pork chop island to a southeast through transit queue jump lane. Keep the southbound right slip lane for vehicles destined to I-405.</td>
<td>Buses can bypass southbound queues on Lake Hills Connector Road.</td>
<td>Yes</td>
</tr>
<tr>
<td>AA</td>
<td>Traffic Control</td>
<td>Replace the pork chop island at the intersection of 145th Place SE/SE 24th Street to allow an exclusive eastbound left turn pocket. Additionally, reconfigure the lanes in the westbound direction to a left turn pocket and shared westbound through-right. The new configuration removes the split phasing and provides protected eastbound and westbound left turns. Alternatively, consider a roundabout at this intersection.</td>
<td>The protected left turn pockets provide additional green time for the eastbound and westbound left turns and removes the heavy eastbound left turns from sharing a lane with the through and right turns.</td>
<td>Yes</td>
</tr>
<tr>
<td>AB</td>
<td>Infrastructure</td>
<td>Remove the median island and reconfigure the intersection of 148th Avenue SE and SE 28th Street. These improvements will provide the right-of-way to improve the eastbound turn radius and widen the intersection. Improvements include restricting the westbound through-left turns to only allow westbound rights. (Northbound and southbound U-turns can be made at the 148th Avenue SE and SE 24th Street intersection). Make the eastbound right turn protected⁶ and provide a northbound left and westbound right turn overlap phase. Additionally, provide an eastbound left turn pocket. Widen the lanes in the westbound direction to two lanes, a westbound left and through-right turn lane. Remove the split phasing and provide a protected eastbound and westbound left turn. Alternatively, consider a roundabout at this intersection.</td>
<td>May reduce vehicle crashes and reduce delays associated with the existing split phasing.</td>
<td>Yes</td>
</tr>
</tbody>
</table>

⁶ There were high bus-vehicle conflicts associated with eastbound right-turning vehicles.
Table 7-1. Potential Speed and Reliability Improvements for Corridor 1027 (continued)

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<tbody>
<tr>
<td>AC</td>
<td>Transit Lane</td>
<td>Widen 148th Avenue SE to allow a BAT lane from the I-90 westbound ramp to the intersection of 150th Avenue SE and SE Eastgate Way. Additionally, consider widening the eastbound approach to allow a second eastbound left turn lane. The eastbound left turn lane could be extended further west by restricting the southbound left turn out of the 148th Avenue SE and SE Eastgate Way intersection. (The City of Bellevue is conducting an Eastgate study within this area that includes the intersection of SE Eastgate Way and 150th Avenue SE). An alternative could include a two-lane roundabout at the intersection of 148th Avenue SE and SE Eastgate Way, or buses could be rerouted through Bellevue College to a new street on Snoqualmie River Road. This would require modifications on Snoqualmie Road such as removing parking and improving the turn radius for buses to turn onto SE 32nd Street.</td>
<td>Reduces delays.</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Figure 7-1. Corridor 1027 Future Speed and Reliability Improvements (map 1of 4)
Figure 7-1. Corridor 1027 Future Speed and Reliability Improvements, continued (map 2 of 3)
Figure 7-1. Corridor 1027 Future Speed and Reliability Improvements, continued (map 3 of 3)